

## 113.2 - Portland Cement Clinkers (solid form)

These SRMs provide certified values for the abundance of major phases in cement clinkers, i.e., the percentages of alite ( $C_3S$ ), belite ( $C_2S$ ), aluminate ( $C_3A$ ), and ferrite ( $C_2(A,F)$ ). NOTE: In cement chemist notation, C=CaO, S=SiO<sub>2</sub>, A=Al<sub>2</sub>O<sub>3</sub> and F=Fe<sub>2</sub>O<sub>3</sub>.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

Component (mass fraction, in %)

SRM	Description	Unit Size	Alite ( $C_3S$ )	Alkali Sulfates	Aluminate ( $C_3A$ )	Aluminum oxide ( $Al_2O_3$ )	Aphthitalite	Arcanite	Belite ( $C_2S$ )	Calcium oxide (CaO)	Ferrite ( $C_2AF$ )	Free CaO	Iron oxide ( $Fe_2O_3$ )	Loss on ignition at 1000 °C	Magnesium oxide (MgO)	Manganese trioxide ( $Mn_2O_3$ )
2686a	Portland Cement Clinker	4 vials x 7 g	63.35	0.87	2.46	(3.70)	0.74	0.27	18.68	(64.09)	10.76		(3.65)	(0.51)	(4.81)	(0.13)
2687a	Portland Cement Clinker	5 vials x 8 g	57.88		9.56	(5.470 )	(0.16 )	(0.68 )	24.70	(66.172 )	6.27	(0.51 )	(2.403 )	(0.49 )	(1.035 )	(0.031 )
2688	Portland Cement Clinker	3 vials x 10 g	64.95		4.99	(4.90)			17.45	(66.50)	12.20	(0.2)	(4.07)	(0.21)	(0.98)	(0.03)

- Certified values are normal font
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Periclase
3.40
(0.25)

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Component (mass fraction, in %)											
SRM	Description	Unit Size	Phosphorus pentoxide (P <sub>2</sub> O <sub>5</sub> )	Potassium oxide (K <sub>2</sub> O)	Silicon dioxide (SiO <sub>2</sub> )	Sodium oxide (Na <sub>2</sub> O)	Strontium oxide (SrO)	Sulfur trioxide (SO <sub>3</sub> )	Titanium dioxide (TiO <sub>2</sub> )	Total	Zinc oxide (ZnO)
2686a	Portland Cement Clinker	4 vials x 7 g	(0.07)	(0.49)	(21.71)	(0.20)	(0.04)	(0.56)	(0.22)	(100.18)	
2687a	Portland Cement Clinker	5 vials x 8 g	(0.524 )	(0.702 )	(22.07 )	(0.103 )	(0.090 )	(0.695 )	(0.246 )		(0.028 )
2688	Portland Cement Clinker	3 vials x 10 g	(0.08)	(0.35)	(22.68)	(0.11)	(0.13)	(0.31)	(0.24)	(100.60)	

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